

REMARKS

I. Introduction

These amendments and remarks are being filed in response to the Office Action dated June 1, 2007. No new matter has been added.

Claims 1-17 are currently pending in this application. Claims 7 and 10 have been canceled without prejudice. Both claims 1 and 17 have been amended to include the limitations of canceled dependent claims 7 and 10. Claims 8, 9 and 11 have been amended to revise claim dependency. No new matter has been added by this amendment.

Claims 1, 5, 6 and 17 were rejected under 35 U.S.C. § 102(e). Claims 2-4 and 7-16 were rejected under 35 U.S.C. § 103(a).

For the following reasons this application should be allowed and the case passed to issue.

II. Claim Rejections under 35 U.S.C. § 102(e)

Claims 1, 5, 6 and 17 were rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Kilb et al US 2001/0016282 ("Kilb"). Applicants respectfully disagree. However in the interests of expediting prosecution, independent claims 1 and 17 have been amended to further define the invention. Specifically claims 1 and 17 have been amended to include the limitations of original dependent claims 7 and 10.

Currently amended claims 1 and 17 require that the claimed alkaline storage battery include a current collector plate, wherein the current collector plate comprises a conductive sheet having a plurality of protrusions and, wherein the plurality of protrusions have tip ends that are buried in said first electrode or said second electrode.

In contrast to the amended claims, Kilb fails to disclose a conductive collector plate with a plurality of protrusions having tip ends that are buried in the electrode as recited in claims 1

and 17. Kilb discloses a cell including a cell cover separated from a negative electrode by a spring (see Fig. 1).

The factual determination of lack of novelty under 35 U.S.C. § 102 requires the disclosure in a single reference of each element of a claimed invention. *Helifix Ltd. v. Blok-Lok Ltd.*, 208 F.3d 1339, 54 USPQ2d 1299 (Fed. Cir. 2000); *Electro Medical Systems S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 32 USPQ2d 1017 (Fed. Cir. 1994); *Hoover Group, Inc. v. Custom Metalcraft, Inc.*, 66 F.3d 399, 36 USPQ2d 1101 (Fed. Cir. 1995); *Minnesota Mining & Manufacturing Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992); *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051 (Fed. Cir. 1987). Because Kilb fails to disclose a conductive collector plate with a plurality of protrusions having tip ends that are buried in the electrode as required in claims 1 and 17 the reference does not anticipate claims 1 and 17.

Moreover, it would not have been obvious to a skilled artisan to modify the cell of Kilb to include a plurality of protrusions having tip ends that are buried in the electrode because the cell of Kilb includes a “particularly flat spring 7” (see col. 3: paragraph 23), that functions to maintain a separation between the electrode and the casing. In contrast, a protrusion increases contact with the electrode by providing protrusions into the electrode. As such, modifying the cell of Kilb by adding a protrusion as required by the present claims, would appear to destroy the function of the spring containing cell of Kilb.

Furthermore, Dependent claims 2-6, 8, 9 and 11-15 are allowable for at least the same reasons as independent claims 1 and 17 and further distinguish the claimed invention.

III. Claim Rejections under 35 U.S.C. § 103(a).

Claims 3, 4 and 7-16 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kilb in view of Yanagihara et al U.S. 5,543,250 (“Yanagihara”). Applicants disagree.

As discussed above, canceled claims 7 and 10 have been incorporated into independent claims 1 and 17, which require that the alkaline storage battery include a current collector plate, wherein the current collector plate comprises a conductive sheet having a plurality of protrusions and, wherein the plurality of protrusions have tip ends that are buried in said first electrode or said second electrode.

Furthermore, independent claim 16 also recites an alkaline storage battery comprising a sealing plate and having at least one protrusion.

The Examiner asserts that Yanagihara teaches a plurality of protrusions in the sheet protruding from either side of the sheet, and that it would have been obvious to use the plates of Yanagihara in the battery of Kilb. As discussed above, Applicant respectfully submit that modifying the cell of Kilb by adding a sheet including a plurality of protrusions would appear to destroy the functionality of the Kilb spring containing cell.

Moreover, the conductive current collector plate of the present invention is joined (e.g. welded) to the inner face of the bottom of the case or the inner face of the sealing plate, and has a plurality of protrusions with the tip ends that are buried in the electrode.

Thus, the conductive current collector plate of the present invention fixes the electrode in a more reliable manner than the cell disclosed in Kilb.

Furthermore, in the present invention, since the tip ends of the protrusions are buried in the electrode, the electrical connection between the electrode and the conductive collector plate is better than that in Kilb.

The collector disclosed in Yanagihara functions as a core material of the electrode, as shown in Yanagihara FIGS. 5 and FIG. 6, and has an active material applied to its surface. The collector plate of Yanagihara has a wound structure as illustrated in FIG. 7, which shows a cross-section thereof. As is clear from FIG. 7, the structure of the battery of Yanagihara is different from that of the presently claimed battery.

Moreover, the collector (core material) of Yanagihara is not connected to the battery case of sealing plate in FIG. 7 and the collector itself cannot function as a lead that provides an electrical connection between the case and the electrode or between the sealing plate and the electrode.

Therefore, one with ordinary skill in the art would not arrive at the present invention even from the combination of Kilb and Yanagihara.

Accordingly claims 1-6, 8, 9, 11-17 are neither anticipated nor rendered obvious by Kilb or Yanagihara, taken alone or in combination with one another.

In view of the above amendments and remarks, Applicants submit that this application should be allowed and the case passed to issue. If there are any questions regarding this Amendment or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

Application No.: 10/511,199

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP



Michael E. Fogarty
Registration No. 36,139

600 13th Street, N.W.
Washington, DC 20005-3096
Phone: 202.756.8000 MEF:MWE
Facsimile: 202.756.8087
Date: August 28, 2007

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as our correspondence address.**